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AMENDMENTS TO THE CLAIMS

The following listing of claims is intended to replace all prior versions or listings of claims in the application. Please add or amend the claims to read as follows, and cancel without prejudice claims indicated as cancelled:

LISTING OF CLAIMS

1. – 3. (Cancelled)
4. (Currently Amended) An all optical chopping device for shaping and reshaping comprising:
 - i. a first splitting device having at least first, second, and third terminals; and
 - ii. at least one nonlinear element,wherein said second and third terminals form an optical loop including said at least one nonlinear element displaced from the center of said optical loop, wherein said first splitting device is arranged to receive an input signal from the first terminal for reflecting a first output signal into the first terminal, and wherein said first output signal is narrower than said input signal.
5. (Currently Amended) The device of claim 4 wherein said first splitting device further includes a ~~forth~~ fourth terminal.
6. (Currently Amended) The device of claim 5 wherein said device is arranged to produce a second output signal at said ~~forth~~ fourth terminal.
7. (Original) The device of claim 5 wherein said second output signal is narrower than said input signal.
8. (Currently Amended) The device of claim 7 wherein said second output signal is produced by a chopping operation selected from a group of chopping operations including head chopping, tail chopping, and head and tail chopping.

9. **(Original)** The device of claim 4 wherein the first terminal further includes a directing device for directing said first output signal into a second output.
10. **(Currently Amended)** The device of claim 9 wherein said first splitting device further includes a ~~forth~~ fourth terminal, said first terminal further includes a second splitting device, and wherein at least one of said second output and said fourth terminal includes a first combining device for directing part of said input signal from said second splitting device via a first optical path into one of said second output and said ~~forth~~ fourth terminal.
11. **(Original)** The device of claim 10 wherein said first optical path further includes an optical amplifier.
12. **(Currently Amended)** The device of claim ~~11~~ 10 wherein said one of said first optical path and said first terminal includes an optical delay line.
13. **(Currently Amended)** The device of claim 9 wherein said directing device is selected from a group of devices including circulators, couplers, and directional couplers.
14. **(Currently Amended)** The device of claim 4 wherein the first terminal further includes a third splitter and a second combining device, said third splitter and said second combining device being connected via second and third optical paths, and wherein said at least one of said second and third optical paths includes an optical delay line and said at least one of said second and third optical paths includes an optical amplifier.

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15. (Currently Amended) The device of claim 4 wherein said first output signal is produced by a chopping operation selected from a group of chopping operations including head chopping, tail chopping, and head and tail chopping.

16. (Original) The device of claim 4 wherein said at least one non linear element is a solid state amplifier.

17. (Original) The device of claim 4 wherein said at least one non linear element is an optical amplifier having controllable gain.

18. (Currently Amended) An all optical chopping device for shaping and reshaping comprising:

i. a first splitting device having at least first, second, and third terminals; and

ii. at least one nonlinear element,

wherein said second and third terminals form an optical loop including said at least one nonlinear element displaced from the center of said optical loop,

wherein said splitting device is arranged to receive an input signal from the first terminal for splitting said input signal into optical signal components for propagating ~~to~~ clockwise and counterclockwise in said optical loop,

wherein said optical signal components partially overlap each other at said nonlinear element for producing a first output signal at the first terminal, and wherein said first output signal is narrower than said input signal.

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19. **(Currently Amended)** An all optical chopping device for shaping and reshaping comprising:

- i. a first splitting device having at least first, second, and third terminals;
- ii. at least one nonlinear element; and
- iii. at least one attenuator,

wherein said second and third terminals form an optical loop including said at least one attenuator and said at least one nonlinear element displaced from the center of said optical loop,

wherein said first splitting device is arranged to receive an input signal from the first terminal for reflecting a first output signal into the first terminal, and

wherein said first output signal is narrower than said input signal.

20. **(Currently Amended)** The device of claim 19 wherein said first splitting device further includes a ~~forth~~ fourth terminal.

21. **(Currently Amended)** The device of claim 20 wherein said device is arranged to produce a second output signal at said ~~forth~~ fourth terminal.

22. **(Original)** The device of claim 20 wherein said second output signal is narrower than said input signal.

23. **(Currently Amended)** The device of claim 22 wherein said second output signal is produced by a chopping operation selected from a group of chopping operations including head chopping, tail chopping, and head and tail chopping.

24. **(Original)** The device of claim 19 wherein the width of said first output signal is selectable.

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25. **(Currently Amended)** The device of claim 24 wherein the width of said first output signal is selected by selecting the gain and attenuation of said at least one attenuator and at least one non linear element.
26. **(Original)** The device of claim 19 wherein the first terminal further includes a directing device for directing said first output signal into a second output.
27. **(Currently Amended)** The device of claim 26 wherein said splitting device further includes a ~~forth~~ fourth terminal, said first terminal includes a second splitting device, and wherein at least one of said second output and said fourth terminal includes a first combining device for directing part of said input signal from said second splitter via a first optical path into one of said second output and said ~~forth~~ fourth terminal.
28. **(Original)** The device of claim 27 wherein said first optical path includes an optical amplifier.
29. **(Currently Amended)** The device of claim 28 27 wherein said one of said first optical path and said first terminal includes an optical delay line.
30. **(Currently Amended)** The device of claim 26 wherein said directing device is selected from a group of devices including circulators, couplers, and directional couplers.
31. **(Currently Amended)** The device of claim 19 wherein said first output signal is produced by a chopping operation selected from a group of chopping operations including head chopping, tail chopping, and head and tail chopping.
32. **(Original)** The device of claim 19 wherein said non linear element is a solid state amplifier.

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33. **(Original)** The device of claim 19 wherein said at least one non linear element is an optical amplifier having controllable gain.
34. **(Original)** The device of claim 19 wherein said at least one attenuator is an optical amplifier having controllable loss.
35. **(Original)** The device of claim 19 wherein the width of said first output signal is selectable.
36. **(Currently Amended)** The device of claim 19 wherein the width of said first output signal is selected by selecting the gain and attenuation of said at least one attenuator and at least one non linear element.

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37. (Currently Amended) An all optical chopping device for shaping and reshaping comprising:

- i. a splitting device having at least first, second, and third terminals;
- ii. at least one nonlinear element; and
- iii. at least one attenuator,

wherein said second and third terminals form an optical loop including said at least one attenuator and said at least one nonlinear element displaced from the center of said optical loop,

wherein said splitting device is arranged to receive an input signal from the first terminal for splitting said input signal into optical signal components for propagating to clockwise and counterclockwise in said optical loop,

wherein said optical signal components partially overlap each other at said nonlinear element for producing a first output signal at the first terminal, and

wherein said first output signal is narrower than said input signal.